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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,606	06/23/2003	Christopher Dube	DR-352J	8958
<div>7590 09/21/2009</div> <div>IANDIORIO & TESKA INTELLECTUAL PROPERTY LAW ATTORNEYS 260 BEAR HILL ROAD WALTHAM, MA 02451-1018</div>				
EXAMINER				
FOX, JOHN C				
ART UNIT		PAPER NUMBER		
3753				
MAIL DATE		DELIVERY MODE		
09/21/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/601,606

Applicant(s)

DUBE ET AL.

Examiner

John Fox

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-45 is/are pending in the application.
- 4a) Of the above claim(s) 9-12 and 14-45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-8 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Applicant's election without traverse of Group I, claims 1, 3-8, and 13, is acknowledged.

Claims 9-12, 14-45 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 3-4, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Barth et al.

It is believed that the general pertinence of the reference is readily apparent. Barth et al manifold 114 includes Kapton sheet 116 and adhesive layers 126, 130, fluid channel 140, and electric leads 164, 166 for connection to the ejection means 110 either of which can be read as an electronic control system.

Applicant's arguments filed June 23, 2009 have been fully considered but they are not persuasive.

Applicant argues against Barth et al for having an outlet 138. However, claim 1 recites an outlet. The point of the argument is not understood.

Applicant argues against Barth et al for not circulating fluid over a surface of an electrofluidic component. However, in Barth et al fluid flows from inlet 134 along channel 140 and through outlet 138. The walls of channel 140 are formed by the surfaces of sheets 116, 118. The specification defines electrofluidic component as including channels 49, 51, and 53 of Figures 2A and 2B of the application, see page 11, first full

paragraph of the instant specification. It is the Examiner's opinion that channel 140 of Barth et al meets the argued for claim limitation.

Applicant argues against Barth et al for chamber 148 being walled off. However, nothing in the claim precludes such a feature.

Applicant argues against Barth et al for not showing a microfluidic system configured to define at least one electrofluidic component thereon (emphasis applicant's). It is not clear how fluid channels 49, 51, and 53 can be described as "on" the system if they are disposed between layers as shown in Figure 2A. It appears to the Examiner that channel 140 of Barth et al is substantially the same as channels 49, 51, and 53 of the application and that Barth et al fully meets the claim language.

Applicant argues against Barth et al for attaching chip 108 after layers 116, 118 are joined. However, nothing in the claims preclude such a feature, and, in fact, the instant application includes components attached to the exterior of the system after the layers are joined.

Claims 1, 3-8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barth et al in view of Biegelsen et al.

Barth et al show the claimed device except for some details. Biegelsen et al show a microvalve with electric connections formed on the lamination for controlling the valve, and broadly disclose multiple embedded fluidic components and the use of known circuit board manufacturing techniques for MEMS devices. It would have been obvious for one of ordinary skill in the art at the time the invention was made to have used such electric connections formed on the lamination layers as taught by Biegelsen

et al with the system of Barth et al under the rationale set forth in KSR v. Teleflex, 550 U.S. ___, 127 S. Ct. 1727, 82 U.S.P.Q.2d 1385 (2007) that the simple substitution of one known element for another to obtain predictable results is obvious.

The use of a commercially available resin, R/FLEX, is considered an obvious matter of choice, as is the deposition depth. The recitation of "etched" in claim 7 relates to a method of manufacture and is not given weight in the apparatus claim. As to claim 8, the step of not bonding areas that are not supposed to be bonded is considered an obvious expedient.

Applicant's arguments are limited to Barth et al, which arguments have been rebutted. Therefore this rejection will be maintained.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Fox whose telephone number is 571-272-4912.

The examiner can normally be reached on Monday-Saturday from 10am-6pm (Hoteling Program).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Huson can be reached on 571-272-4887. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John Fox/
Primary Examiner
Art Unit 3753